

F. Mitigation Monitoring

As the Lead Agency under CEQA, the CSLC is required to adopt a program for reporting or monitoring regarding the implementation of mitigation measures for this project, if it is approved, to ensure that the adopted mitigation measures are implemented as defined in this EIR. This Lead Agency responsibility originates in Public Resources Code Section 21081.6(a) (Findings), and CEQA Guidelines Sections 15091(d) (Findings) and 15097 (Mitigation Monitoring or Reporting).

F.1 Monitoring Authority

The purpose of a Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) is to ensure that measures adopted to mitigate or avoid significant impacts are implemented. A MMCRP can be a working guide to facilitate not only the implementation of mitigation measures by the project proponent, but also the monitoring, compliance and reporting activities of the CSLC and any monitors it may designate.

The CSLC may delegate duties and responsibilities for monitoring to other environmental monitors or consultants as deemed necessary, and some monitoring responsibilities may be assumed by responsible agencies, such as affected jurisdictions and cities, and the California Department of Fish and Game (CDFG). The number of construction monitors assigned to the project will depend on the number of concurrent construction activities and their locations. The CSLC or its designee(s), however, will ensure that each person delegated any duties or responsibilities is qualified to monitor compliance.

Any mitigation measure study or plan that requires the approval of the CSLC must allow at least 60 days for adequate review time. When a mitigation measure requires that a mitigation program be developed during the design phase of the project, the Applicant must submit the final program to CSLC for review and approval for at least 60 days before construction begins. Other agencies and jurisdictions may require additional review time. It is the responsibility of the environmental monitor assigned to each spread to ensure that appropriate agency reviews and approvals are obtained.

The CSLC or its designee will also ensure that any deviation from the procedures identified under the monitoring program is approved by the CSLC. Any deviation and its correction shall be reported immediately to the CSLC or its designee by the environmental monitor assigned to the construction spread.

F.2 Enforcement Responsibility

The CSLC is responsible for enforcing the procedures adopted for monitoring through the environmental monitor assigned to each construction spread. Any assigned environmental monitor shall note problems with monitoring, notify appropriate agencies or individuals about any problems, and report the problems to the CSLC or its designee.

F.3 Mitigation Compliance Responsibility

The Applicant, SFPP, L.P., is responsible for successfully implementing all the mitigation measures in the MMCRP, and is responsible for assuring that these requirements are met by all of its construction contractors and field personnel. Standards for successful mitigation also are implicit in many mitigation measures that include such requirements as obtaining permits or avoiding a specific impact entirely. Other mitigation measures include detailed success criteria. Additional mitigation success thresholds will be established by applicable agencies with jurisdiction through the permit process and through the review and approval of specific plans for the implementation of mitigation measures.

F.4 General Monitoring Procedures

Environmental Monitors. Many of the monitoring procedures will be conducted during the construction phase of the project. The CSLC and the environmental monitor(s) are responsible for integrating the mitigation monitoring procedures into the construction process in coordination with SFPP. To oversee the monitoring procedures and to ensure success, the environmental monitor assigned to each construction spread must be on site during that portion of construction that has the potential to create a significant environmental impact or other impact for which mitigation is required. The environmental monitor is responsible for ensuring that all procedures specified in the monitoring program are followed.

Construction Personnel. A key feature contributing to the success of mitigation monitoring will be obtaining the full cooperation of construction personnel and supervisors. Many of the mitigation measures require action on the part of the construction supervisors or crews for successful implementation. To ensure success, the following actions, detailed in specific mitigation measures, will be taken:

- Procedures to be followed by construction companies hired to do the work will be written into contracts between SFPP and any construction contractors. Procedures to be followed by construction crews will be written into a separate document that all construction personnel will be asked to sign, denoting agreement.
- One or more preconstruction meetings will be held to inform all and train construction personnel about the requirements of the monitoring program.
- A written summary of mitigation monitoring procedures will be provided to construction supervisors for all mitigation measures requiring their attention.

General Reporting Procedures. Site visits and specified monitoring procedures performed by other individuals will be reported to the environmental monitor assigned to the relevant construction spread. A monitoring record form will be submitted to the environmental monitor by the individual conducting the visit or procedure so that details of the visit can be recorded and progress tracked by the environmental monitor. A checklist will be developed and maintained by the environmental monitor to track all procedures required for each mitigation measure and to ensure that the timing specified for the procedures is adhered to. The environmental monitor will note any problems that may occur and take appropriate action to rectify the problems.

Public Access to Records. The public is allowed access to records and reports used to track the monitoring program. Monitoring records and reports will be made available for public inspection by the CSLC or its designee on request. The CSLC will develop a filing system.

F.5 Mitigation Monitoring Tables

The following sections present the mitigation monitoring tables for each environmental discipline (as presented in Sections D.2 through D.14). Each table lists the following information, by column:

- Impact (impact number, title, and impact class).
- Mitigation Measure (title only; full text of the measure is presented in Section D).
- Location (where the impact occurs and the mitigation measure should be applied).
- Monitoring/reporting action (the action to be taken by the monitor or Lead Agency).
- Effectiveness criteria (how the agency can know if the measure is effective).
- Responsible agency.
- Timing (before, during, or after construction; during operation, etc.).

Table F-1. Mitigation Monitoring Program – Pipeline Safety and Risk of Accidents

Impact	Mitigation Measure ¹	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
S-1: Construction activities present hazards to the public and construction workers	S-1a: Minimize effect on other underground utilities	Entire alignment	Compliance monitoring.	Reduces damage to existing facilities.	CSLC	Before and during construction
	S-1b: Minimize risk of fire	Entire alignment	Observe construction activities to verify compliance.	Minimizes personal injury, death, or property damage from fire during construction.	CSLC	During construction
S-2: A pipeline accident could result in injury or fatalities to nearby public.	S-2a: Prepare a Supplemental Spill Response Plan with resource information specific to approved route.	Entire alignment	Review and approval of plan.	Minimize effects in the event of a spill.	CSLC	Prior to approval of construction
	S-2b: Perform monthly leak detection tests.	Entire alignment	Review monthly test results.	Reduce the impacts associated with slow releases.	CSLC	During and after construction
	S-2c: Perform valve location review along entire route.	Segment 3	Review of Applicant's relocation analysis report.	Increase effectiveness of check valve at MP 20.1.	CSLC	Prior to approval of construction
	S-2d: Prevent third party damage in most densely populated areas.	MP 24.5 to 28.3 (Fairfield/Suisun City) and MP 68.5 to 69.0	Approval of plans to minimize third-party damage and monitoring of implementation.	Minimize risk of pipeline rupture due to third-party damage.	CSLC	Prior to start of construction
	S-2e: Conduct pipeline inspections.	Entire alignment	Review inspection reports.	Minimize the likelihood of external corrosion caused releases.	CSLC	During and after construction
	S-2f: Ensure proper cathodic protection.	Entire alignment	Review inspection reports.	Ensure that adequate cathodic protection levels are maintained.	CSLC	During and after construction
	S-2g: Install pipeline markers	Entire alignment	Observe markers to verify compliance.	Minimize third-party damage.	CSLC	During and after construction
S-3: Improper pipeline abandonment could cause contamination, landslides, or erosion.	S-3a: Implement proper pipeline abandonment procedures.	All pipeline abandonment areas	Review of abandonment procedures and identification of any sensitive land uses.	Minimize adverse effects on special land uses and potential soil contamination.	CSLC	Prior to pipeline abandonment

¹ The full text of all mitigation measures is presented in Section D.

Table F-2. Mitigation Monitoring Program – Air Quality

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
A-1: Emissions of equipment exhaust could substantially contribute to existing violations of ozone standards during the construction period.	A-1a: Control equipment emissions from on-site construction equipment.	Entire alignment	Review construction vehicle documentation.	Exhaust emissions are minimized.	CSLC	Before and during construction
A-2: Emissions of airborne dust could substantially contribute to existing violations of PM ₁₀ standards during the construction period.	A-2a: Control dust and particulate emissions by implementing the recommendations of the applicable AQMD.	Entire alignment	Observe construction activities to verify compliance.	Visible debris minimized.	CSLC	Before and during construction
A-3: Emissions of motor vehicle exhaust could substantially contribute to existing violations of ozone and PM ₁₀ standards during the construction period.	A-3a: Prepare transportation management plan for local jurisdictions.	Entire alignment	Review transportation management plan.	Vehicle trips are minimized.	CSLC	Before and during construction

Table F-3. Mitigation Monitoring Program – Biological Resources

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
BW-1: Wildlife habitat removal from construction could remove existing habitat.	BW-1a: Conduct pre-construction surveys to identify sensitive resources.	Entire alignment	Map and mark sensitive resources on construction drawings or project maps.	Consistent with requirements stipulated by resource agencies. Confirmation by Environmental Monitor.	CSLC	Prior to construction
	BW-1b: Establish buffer zones around sensitive resources.	Entire alignment	Locate and stake sensitive resources.	Confirmation by Environmental Monitor.	CSLC	Before and during construction
	BW-1c: Conduct worker WEAP training.	Entire alignment	All workers must complete training by Environmental Monitor.	Record of all personnel trained during the project will be maintained and made available for compliance verification.	CSLC	Prior to construction
	BW-1d: Confine activity to identified ROW.	Entire alignment	Construction activity will be confined to the identified ROW.	On-site confirmation by the Environmental Monitor.	CSLC	During construction
	BW-1e: Minimize disturbance at water crossings.	At all water crossings	Bore under streams that could support special status species or other resources of special value.	Review of final proposed water crossing techniques for minimal disturbance.	CSLC	Prior to construction

Table F-3. Mitigation Monitoring Program – Biological Resources

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
BW-2: The direct loss of wildlife could occur from construction activities and increased human activity.	BW-2a: Reduce direct mortality to wildlife.	Entire alignment	Impose conditions on all construction personnel.	On-site confirmation by the Environmental Monitor.	CSLC	During construction
	BW-2b: Employ approved biological monitors.	Entire alignment	Presence of monitor on-site during construction.	Review and approval by CSLC.	CSLC	Before and during construction
BW-3: Construction and operation could cause habitat removal or disturbance of special status wildlife species.	BW-3a: Protect special status wildlife.	Entire alignment	Perform specified actions where construction will occur within or near known or potential special status species habitat.	Confirmation by the Environmental Monitor.	CSLC	During construction and operation
	BW-3b: Protect special status bird species by limiting construction periods to outside the respective breeding season of the affected species.	Entire alignment	Timing of construction.	On-site confirmation by the Environmental Monitor.	CSLC	During construction
	BW-3c: Protect raptor nests.	Entire alignment	Perform pre-construction surveys and establish buffer zones.	Review and monitoring of compliance by the Environmental Monitor.	CSLC	Before and during construction
	BW-3d: Consult resource agencies to minimize impacts.	Entire alignment	Develop appropriate mitigation in consultation with the resource agencies.	Review by appropriate agencies before construction approval.	CSLC	Before and during construction and operation
BB-2: Construction could result in the loss of individuals or known habitats of sensitive plant species or associated habitats.	BB-2a: Avoid rare plants during construction.	All segments, except the Wickland Connection (Segment 7)	Conduct protocol-level surveys for rare plants and implement avoidance measures, such as fencing and worker training.	Total avoidance of impacts to rare plants. Compliance supervised and verified by the Environmental Monitor.	The Environmental Monitor shall be a qualified biologist approved by USFWS and CDFG.	Surveys and avoidance shall be completed prior to construction. Verification of measures implemented to occur during construction.
BB-3: Upland vegetation removal during construction activities could result in temporary loss of vegetation, adversely impacting upland vegetation.	BB-3a: Avoid, minimize, and compensate for impacts to trees, including those protected by local ordinances.	Segments 2, 3, and 5	Map trees in area and develop a tree replacement procedures for unavoidable impacts; monitor over a five-year period for tree survival.	Replacement of trees at a minimum 3:1 ratio (unless otherwise specified by permits).	Local jurisdiction (County or City); possibly CDFG	Mapping and plan approval prior to construction. Implement plan during and following construction.

Table F-3. Mitigation Monitoring Program – Biological Resources

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
BB-5: Construction in wetlands would result in vegetation removal within the project ROW or disrupt the hydrology of the wetlands.	BB-5a: Avoid, minimize, and/or compensate for damage and/or loss of wetland vegetation types.	All segments, except Segment 4 and Segment 6	Consultation and implementation of avoidance measures during construction as verified by the Environmental Monitor over a five-year period.	To restore the function of the affected wetland to pre-construction conditions.	ACOE and RWQCB	Map wetlands, avoid impacts, and prepare plan for approval prior to construction. Implement plan during and following construction.
	BB-5b: Prevent temporary and permanent hydrologic alteration to wetlands and associated sensitive vegetation from backfill activities.	All segments, except Segment 6	Implementation of soil and topographic restoration measures monitored annually over a five-year period.	Restore topography to pre-construction conditions and ensure pre-construction functioning of impacted and adjacent wetlands.	RWQCB, ACOE, CDFG and Counties	Prepare plan for approval prior to construction. Implement plan during and following construction.
	BB-5c: Minimize and compensate for impacts to riparian vegetation.	Segments 2, 3, and 5	Map riparian forest within construction areas and prepare riparian restoration procedures for unavoidable impacts; monitor over a five-year period for replanted tree survival.	1:1 replacement ratio of habitat acreage and at least 3:1 replacement ratio of the number of trees and shrubs present prior to construction (unless otherwise specified by permits).	CDFG (possibly local jurisdiction)	Mapping and procedure approval prior to construction. Implement during and following construction.
BB-6: Construction disturbance could provide an opportunity and seedbed for the invasion of weeds, adversely affecting special status plant species, upland vegetation, and/or wetlands.	BB-6a: Prevent invasion of invasive, non-native plant species into sensitive plant species habitats and vegetation types.	Entire alignment	Approval of weed management procedures and monitoring of the implementation of control measures.	Control establishment and spread of exotic non-native plants.	CSLC (and possibly USFWS, ACOE and CDFG)	Before and during construction
B-1: Pipeline spills could degrade or alter habitat for wildlife, aquatic habitats and organisms, special status plants and their habitat, upland vegetation, and/or wetlands.	B-1a: Implement pipeline spill mitigation for biological resources.	Entire alignment	Incorporate testing and spill restoration measures into existing Oil Spill Response Plan and Emergency Response Plan; monitoring of implementation.	To restore or recreate the affected vegetation type or special status plant population to pre-spill conditions.	USFWS, ACOE, RWQCB and CDFG (possibly local jurisdictions)	Preparation and approval of measures prior to pipeline operation.

Table F-3. Mitigation Monitoring Program – Biological Resources

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
B-3: Overland travel during pipeline maintenance and repair could affect special status wildlife or plant species and upland vegetation or their habitats and/or to wetlands.	B-3a: Avoid, minimize, and compensate for pipeline operation and maintenance impacts to sensitive plant species and vegetation types.	Entire alignment	Update operations and maintenance procedures with verification of implementation by the Environmental Monitor.	Avoidance and maintenance of existing sensitive vegetation types and rare plants, and restoration of sensitive vegetation affected by pipeline repair to pre-construction conditions.	CSLC	Preparation and approval of measures prior to pipeline operation.
B-4: Construction or operation and accident impacts on sensitive biological and water resources within Cordelia Marsh and Slough could affect areas of the marsh.	B-4a: Avoid the sensitive biological and water resources of the Cordelia Slough and Marsh by implementing the Cordelia Mitigation Segment.	Segment 3	Consider alternate pipeline alignment outside of known sensitive biological resources in the Cordelia Marsh and Slough.	Avoidance of Cordelia Slough and Marsh in final pipeline alignment.	CSLC	Prior to construction

Table F-4. Mitigation Monitoring Program – Cultural Resources

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Cul-1: Identified cultural resources within and adjacent to the project alignment may be damaged or destroyed by construction operations.	Cul-1a: Avoid and monitor all archaeological sites.	Pipeline ROW and construction locations	Review design plans to check for avoidance; field review of alignment to check for barrier protection.	Confirmation by Cultural Resources Monitor.	CSLC	Before and during construction
	Cul-1b: The Cultural Resources Monitor shall review and approve any erosion control and revegetation procedures.	Pipeline ROW and construction locations	Archaeological review and approval of any erosion control and revegetation programs.	Review and approval by Cultural Resources Monitor.	CSLC	Before construction
	Cul-1c: Conduct cultural resources awareness training.	Pipeline ROW and construction locations	All workers must complete workshop.	Record proof of course completion.	CSLC	Before construction
Cul-2: Cultural resources that are presently unknown may be affected by project construction.	Cul-2a: Monitor archaeological sites and data recovery.	Pipeline ROW and construction locations	Monitoring by a qualified archaeologist.	Confirmation by Cultural Resources Monitor in accordance with the CSLC, SHPO, and other appropriate agencies.	CSLC	During construction
Cul-3: Project construction has the potential to expose Native American remains at both recorded and as yet unknown locations.	Cul-3a: Native American remains shall be treated in accordance with State law.	Pipeline ROW and construction locations	Monitoring of compliance.	Monitoring of treatment in accordance with State law and NAHC.	CSLC	During construction

Table F-5. Mitigation Monitoring Program – Environmental Contamination and Hazardous Materials

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
EC-1: Pipeline construction through contaminated sites could cause health hazards to construction workers and the public.	EC-1a: Review agency records for medium potential impact sites.	All medium potential sites as identified in Tables C.6.1 through C.6-7.	Review summary report.	Confirm absence or evidence of offsite contamination at the pipeline alignment.	CSLC, DTSC, County environmental health departments	Prior to construction
	EC-1b: Review agency records for high potential impact sites.	All high potential sites as identified in Tables C.6.1 through C.6-7, and other high potential sites discussed in Segment 1 that are not included in the tables.	Review environmental contamination reports.	Compare contaminant levels to appropriate threshold concentration levels and review adequacy of health and safety plan for existing contaminants.	CSLC, DTSC, County environmental health departments	Prior to construction
	EC-1c: Review exposed soil or groundwater for contamination.	Along all segments of the pipeline alignment.	Coordinate with monitoring personnel to confirm appropriate training and understanding of testing equipment, review weekly reports prepared by monitoring personnel.	Conduct periodic site visits during construction to confirm that proper procedures are being implemented.	CSLC, DTSC, County environmental health departments	During construction
EC-2: Landfills near the alignment could result in encountering methane or other flammable or toxic gases during construction.	EC-2a: Complete record searches to determine whether contamination from landfills could extend into the proposed trench.	At landfill sites along Segments 1 and 5 pipeline alignments.	Review environmental contamination report.	Compare contaminant levels to appropriate threshold concentration levels for existing contaminants.	CSLC, DTSC, County environmental health departments	Prior to construction
EC-3: Construction could result in the release of natural gas from existing gas wells, causing an explosion or fire hazard and/or potential health hazards.	EC-3a: Determine locations of abandoned natural gas wells.	Along Segment 5 pipeline alignment.	Review gas field data and verify that avoidance flags are placed.	Identified wells are avoided or correct abandonment is ensured.	CSLC, California Department of Conservation, Division of Oil, Gas & Geothermal Resources	Prior to construction
EC-5: Pipeline accidents could result in spills of refined petroleum products that would cause soil and potential groundwater contamination.	EC-5a: Conduct a site characterization after an accident.	Entire route	Review reports.	Compare contaminant levels to appropriate threshold concentration levels and review adequacy of health and safety plan for existing contaminants.	CSLC, DTSC, County environmental health departments	Prior to construction

Table F-6. Mitigation Monitoring Program – Geology, Soils, and Paleontology

Impact	Mitigation Measure	Location (Milepost)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
G-2: Pipeline construction could expose and damage paleontological resources.	G-2a: Prepare paleontological resource procedures.	Segment 1: MP 0.0–0.35, Segment 2: MP 7.8–10.9, 11.2–12.85, 13.5–14.2, 15.6–17.1, Segment 3: MP 17.76–18.3, Segment 4: MP 25.6–30.7(end), Segment 5: MP 30.7–32.25, 33.25–33.8, 35.25–36.0, 37.55–40.15.	Paleontological monitoring and education of construction workers by a qualified paleontologist. All specimens collected from public land shall be deposited at a curating institute.	The Paleontological monitoring and procedures should be consistent with the Society of Vertebrate Paleontology guidelines (1995).	CSLC	Prior to ground disturbance, and construction monitoring during construction
G-3: Slope failures or downslope creep of unstable natural or man-made slopes along the pipeline could lead to substantial pipeline damage or failure.	G-3a: Perform geotechnical investigations at landslide crossings.	Segment 2: MP 9.7 to 10.7, and MP 14.6 to 15.0 Segment 3: MP 19.7 to 20.1	Prepare site-specific geotechnical study at all alignment crossings of known landslide deposits, incorporate site-specific design features to minimize potential for landslides to affect the pipeline.	The design recommendations of the report should be consistent with standard geotechnical engineering practice.	CSLC, CSFM	Prior to project construction
	G-3b: Relocate the valve at MP 15.17.	Segment 2: MP 15.17	Consider alternate pipeline alignment outside of known landslide hazard zones east of I-680.	The design recommendations of the report should be consistent with standard geotechnical engineering practice.	CSLC, CSFM	Prior to project approval
G-4: There could be excavation failure where the proposed pipeline crosses beneath or adjacent to active railroad ROW.	G-4a: Perform geotechnical investigations for construction below active railroads.	In areas where the pipeline excavation is within 10 feet of the centerline of an active railroad.	Submit excavation and shoring procedures for review and approval to impacted counties for county approval regarding compliance with local regulations and review by UPRR.	Shoring plans for excavations should be consistent with accepted geotechnical engineering standards.	UPRR, CSLC and county trenching codes	Prior to construction and during construction
G-5: Active fault crossings could result in pipeline rupture.	G-5a: Conduct geotechnical studies for fault crossing design.	Segment 1: Concord Fault; Segment 2: Green Valley Fault; Segment 3: Cordelia Fault; Segment 5: Vaca Fault	Consider alternative pipeline alignment perpendicular to fault orientation (and outside landslide area). Submit trench design for fault hazard crossing.	Fault crossing design recommendations should be consistent with standard engineering practice.	CSLC, CSFM and Contra Costa County Department of Public Works (USDOT?)	Prior to project approval

Table F-6. Mitigation Monitoring Program – Geology, Soils, and Paleontology

Impact	Mitigation Measure	Location (Milepost)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
G-5: Active fault crossings could result in pipeline rupture.	G-5b: Incorporate earthquake response practice into pipeline operations and maintenance procedures.	Entire alignment, especially Segments 1, 2, 3, and 5.	Incorporate into pipeline operations and maintenance procedures to inspect all parts of the pipeline alignment that fall within the specified distance of the earthquake epicenter after a seismic event.	Inspections should be consistent with standard engineering practice.	CSLC	Following a seismic event
G-6: Strong earthquake-induced ground shaking could result in significant damage to above-ground structures and lead to failure of open trenches during construction.	G-6a: Perform geotechnical investigations for excavation safety and trench design.	Entire alignment	The results and recommendations of the investigation shall be provided to the excavation design team and incorporated into the final trench design.	Trench design recommendations should be consistent with standard engineering practice and county trenching codes.	CSLC	Prior to construction and during construction
G-7: Liquefaction could result in loss of ground bearing capacity and/or lateral spreading, both of which could result in damage to pipeline.	G-7a: Reduce liquefaction hazard.	Segment 1: MP 0.30–0.9, 3.0–5.02, 6.1–6.33 Segment 2: MP 6.33–7.75, and WC 6–15, Segment 3: MP 18.9–19.7, 22.85–24.5, and WC 16A and 17, Segment 4: MP 24.5–24.85, Segment 5: MP 61.2–65.2 and all WC's, Segment 6: MP 65.2–66.6, 66.8–67.2, and 68.3–70, Segment 7: all	Review of geotechnical report by impacted counties for county approval regarding compliance with local regulations.	Liquefaction evaluation and design recommendations should be consistent with standard geotechnical engineering practice.	Contra Costa, Solano and Yolo County Departments of Public Works, CSLC, CSFM	Prior to construction
G-8: A seiche could remove the cover and damage the pipeline.	G-8a: Map and identify areas for protection from seiche inundation.	Segment 1: MP 4.2 to 5.02, Segment 2: MP 6.13 to 7.36	Review of geotechnical report by impacted counties for county approval regarding compliance with local regulations.	Unknown	CSLC	Prior to construction

Table F-7. Mitigation Monitoring Program – Hydrology and Water Quality

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
HS-1: Construction activities including ROW clearing can disturb stream sediments and leave exposed soil that can be washed into nearby waterways.	HS-1a: Define construction plans water crossings.	At all water crossings	Approval of construction plans and schedule for construction work in stream channels by appropriate agencies	Minimal impacts to waterways with approval by appropriate agencies.	CSLC, applicable RWQCB, and CDFG	Prior to construction
	HS-1b: Open cut construction in streams shall be done using "in the dry" construction techniques.	At all open-cut water crossings	Use "in-dry" techniques for open-cut crossings.	Confirmation by appropriate agency and Environmental Monitor.	CSLC	Before and during construction
	HS-1c: Implement erosion control procedures.	Entire alignment	Implementation of specific conditions for erosion control.	Specific procedures shall be developed by an engineer or other appropriate professional with expertise in the field of hydrology and sediment transport and will be confirmed by an environmental monitor.	CSLC	During and after construction
	HS-1d: If any water is present or expected to be present during construction in Pacheco Slough, cross Pacheco Slough using directional drilling methods.	Segment 1	Use directional drilling methods if water is present or expected to be present during construction in Pacheco Slough.	Review of construction schedule and confirmation of presence/absence of water in Pacheco Slough prior to construction.	CSLC	Before and during construction
HS-2: Contaminants leaking from construction equipment or discharge of hydrostatic test or dust control water could degrade surface or groundwater quality.	HS-2a: Discharge hydrostatic test waters at appropriate waste facilities.	Entire alignment	Monitoring of compliance.	All hydrostatic test waters are discharged at appropriate waste facilities.	CSLC	During construction
HS-3: Surface water can be contaminated during directional drilling if drilling fluid is released.	HS-3a: Create contingency plan for unanticipated release of drilling fluids.	Entire alignment	Prepare prevention and response procedures.	Review and approval of procedures by appropriate agency.	CSLC	Prior to construction
HS-4: Streambed scour could potentially rupture the pipeline causing a release of petroleum products.	HS-4a: Adequately bury and protect the pipeline	In streambeds along the entire alignment	Establish minimum burial depth of the pipeline at stream crossings and monitor pipeline integrity and cover depth routinely and after floods or other high flow events.	Review and approval of plans for pipeline burial, setbacks, and/or bank protection and monitor integrity.	CSLC	Before and during construction and operation

Table F-7. Mitigation Monitoring Program – Hydrology and Water Quality

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
HS-5: Contamination of surface water could result from accidental rupture of the pipeline during operation or maintenance.	HS-5a: Create spill response procedures to protect waterways.	Entire alignment	Include in Supplemental Spill Response Plan specific measures for containment and clean-up of product spills that could possibly reach surface water.	Review and approval by appropriate agency.	CSLC	Prior to construction
HS-6: The proposed pipeline could indirectly cause an increased risk of flooding and erosion	HS-6a: Protect floodplains.	Entire alignment	No structure or permanent fill may be placed within the floodplain of a river or stream.	Review and approval of plans by a professional civil engineer and/or the appropriate agencies.	CSLC	During construction and operation
GW-4: Drinking water could be contaminated if product from a pipeline accident migrated to a well used for municipal or private drinking water purposes.	GW-4a: Install thicker-wall pipeline or weight coating in strategic areas.	Entire alignment in areas within a shallow aquifer, or in an area likely to be disturbed by future construction activity near municipal wells	Identification of problematic areas by SFPP in a report.	Review and approval of report by appropriate agency	CSLC	Before and during construction
	GW-4b: Locate the pipeline and all construction activity at least 200 feet from any existing water well.	Entire alignment	Locate the pipeline and all construction activity at least 200 feet from any existing water well.	Submit plans for review and approval to CSLC and State Fire Marshal.	CSLC, State Fire Marshal	During construction and operation
	GW-4c: Develop emergency response procedures for groundwater remediation.	Entire alignment	Develop emergency response procedures that specifically address measures for groundwater remediation.	Confirmation by appropriate agency.	CSLC	During operation

Table F-8. Mitigation Monitoring Program – Land Use, Public Recreation, and Special Interest Areas

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
LU-1: Construction disturbances could create noise, dust, air emissions, odors, traffic congestion, limited parking, access detours, and utility disruptions.	LU-1a: Provide construction notification to all residents, occupants, and landowners along the construction ROW and staging areas.	Entire alignment	Review written notice prior to mailing; verify mailing by reviewing mailing list.	Land use impacts are minimized.	CSLC	Before construction
	LU-1b: Minimize impacts to schools and day care facilities by limiting construction work hours.	Entire alignment where schools are within 500 feet	Review plans for noticing and schedule for construction near schools along the construction route.	Avoidance of construction near schools during school hours.	CSLC; School districts	Before and during construction
	LU-1c: Provide telephone access for receiving questions or complaints during construction and develop procedures for responding to callers.	Entire alignment	Verify telephone line operation and responsiveness.	Complaints and questions are answered effectively.	CSLC	Before and during construction
LU-2: Construction impacts to agricultural land could result in loss of topsoil and/or farming income.	LU-2a: Preserve topsoil for replacement and restoration.	Along agricultural segments of the pipeline route	Inspect pipeline construction activities on agricultural lands to ensure that topsoil is set aside and replaced as required.	Topsoils are replaced over the installed pipeline as prescribed.	CSLC	During construction
	LU-2b: Compensate landowners for the loss of income from cultivation of land taken out of production due to pipeline construction.	Along agricultural segments of the pipeline route	Obtain copies of agreements signed between the farmers and the Applicant.	Agreements have been signed and are available.	CSLC	Before construction

Table F-9. Mitigation Monitoring Program – Noise

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
N-1: Construction work would cause short-term noise.	N-1a: Restrict construction work hours.	Entire alignment	Review noise ordinances and agreements with local jurisdictions.	Construction does not exceed relevant requirements.	CSLC and local agencies	During construction
N-4: Noise from new equipment proposed for the Concord Station could exceed 55 dBA at nearby noise sensitive receptors.	N-4a: Set noise limits at Concord Station.	Concord Station	Review report of anticipated acoustic performance of new equipment.	Station noise/its are minimized.	CSLC	Pre-construction

Table F-10. Mitigation Monitoring Program – Utilities and Service Systems

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
US-1: Pipeline construction could accidentally damage existing utility lines.	US-1a: Protect underground utilities with project review by local jurisdictions.	Entire pipeline route	Applicant's contractor to prepare construction plans. Offices of Emergency Services and Public Works Departments to review and approve revised Plans. Applicant to submit plans and documentation to CSLC.	Assure that construction plans safeguard existing utility systems and the pipeline design meets all local requirements	Offices of Emergency Services, Public Works Departments	Prior to construction
US-2: Demand for large quantities of for dust suppression and hydrostatic testing during construction may burden the water supply of local water providers.	US-2a: Use reclaimed water.	Entire pipeline route	Review Applicant's efforts to obtain reclaimed water.	Assure that reclaimed water is available.	CSLC, Water Districts	Prior to construction

Table F-11. Mitigation Monitoring Program – Traffic and Transportation

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
T-1: The proposed pipeline would be installed within the public ROW in a number of roadways, causing traffic congestion and construction equipment safety hazards.	T-1a: Limit lane closure.	All locations where pipeline construction or exploratory excavations would block or disrupt a public roadway classified as arterial and collector.	Review documentation of SFPP coordination with affected public agencies (city, county, or Caltrans) indicating that traffic management plans prepared by SFPP have been approved.	If construction activities and lane closures do not result in unreasonable traffic congestion or delays, as determined by the affected public agencies, and if the resulting congestion or blockage does not create more than a five-minute delay for motorist.	CSLC and local jurisdictions	Prior to and during construction
	T-1b: Prepare traffic control plans for local jurisdictions.	All locations where pipeline construction or exploratory excavations would block or disrupt a public roadway.	Review documentation of input and approval from the responsible public agencies. Review documentation of approvals from each jurisdiction.	If construction activities and lane closures do not result in unreasonable traffic congestion or delays, as determined by the affected public agencies, and if the resulting congestion or blockage does not create more than a 5-minute delay for motorists.	CSLC and local jurisdictions	Prior to construction

Table F-11. Mitigation Monitoring Program – Traffic and Transportation

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
T-1 (cont.)	T-1c: Ensure that all equipment remains within work areas designated by the traffic control devices and that it is properly loaded.	All locations where pipeline construction or exploratory excavations would block or disrupt a public roadway and any location where construction equipment enters the public ROW.	CSLC monitor shall monitor construction activities within public road ROWs for compliance.	If the construction activities do not cause traffic accidents.	CSLC and local jurisdictions	During construction
T-2: Construction could temporarily block access to and for parking adjacent businesses, residences, and/or other property.	T-2a: Minimize access concerns	Along the ROW, and all locations where access to adjacent land use is blocked.	Review documentation identifying land uses with access concerns and consultation efforts of SFPP with each jurisdiction.	If access needs of the adjacent land uses are met.	CSLC and local jurisdictions	Prior to and during construction
	T-2b: Notify of roadway construction along construction ROW.	Along the ROW, and all locations where access to adjacent land use is blocked.	Review documentation of SFPP written notification to affected property owners and tenants prior to blocking access to a property.	If access needs of the adjacent land uses are met.	CSLC and local jurisdictions	Prior to and during construction
T-3: Construction activities could block pedestrian access or established bicycle routes.	T-3a: Provide alternative pedestrian/bicycle access routes.	All locations where a designated public pedestrian route is obstructed (sidewalks, recreational paths, etc.).	Review documentation of: SFPP coordination with affected public agencies; and SFPP conformation to all required conditions.	If construction activities do not totally block or unreasonably impair pedestrian movements or safety, as determined by the affected public agencies.	CSLC and local jurisdictions	Prior to and during construction
T-4: Pipeline construction activities could block immediate access to emergency response traffic.	T-4a: Coordinate with emergency service providers to avoid restricting movements of emergency vehicles.	All locations	Review SFPP notification and coordination with emergency service providers. Review SFPP demonstration of capability to provide immediate access across excavations, subject to approval by affected police, medical, and fire agencies.	If the construction activities do not totally preclude access to any area emergency vehicles.	CSLC and affected emergency service providers (fire, police, sheriff, CHP, and ambulance services).	Prior to and during construction
T-5: Construction activities would generate additional traffic on roadways in the project area and use existing parking spaces.	T-5a: Submit the location of proposed staging area(s) to appropriate local jurisdictions for review and approval.	All proposed staging area locations	Review SFPP proposed staging area locations and specifications. Review documentation of input and approval from the responsible public agencies.	If construction traffic and vehicle parking do not disrupt local conditions.	CSLC and local jurisdictions	Prior to construction

Table F-11. Mitigation Monitoring Program – Traffic and Transportation

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
T-6: Pipeline construction could damage roadways.	T-6a: Restore roads to at least pre-construction conditions.	All roads disturbed by pipeline construction activities.	Review documentation that SFPP obtained permits for construction within each road ROW prior to construction; and that each affected roadway has been satisfactorily restored and/or constructed within 30 days of roadway damage.	Restoration/maintenance of roads to pre-construction conditions as determined by the affected public agency.	CSLC, affected local jurisdictions, and Caltrans	After construction is completed on each affected roadway.
T-7: Construction activities could physically block bus routes resulting in the disruption of transit services.	T-7a: Coordinate with public transit to avoid disruption to transit operations in local jurisdictions.	All locations where construction would block a transit route or loading area.	Review SFPP documentation of written notification to all public transit agencies; and SFPP coordination with public transit agencies to alleviate conflicts to the satisfaction of the transit operator.	If safe and efficient transit operations are maintained, subject to approval by transit operators.	CSLC and affected transit agencies	Prior to and during construction.

Table F-12. Mitigation Monitoring Program – Recreational and Commercial Fisheries

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
RCF-1: Pipeline construction across waterways could limit access to waterways for fishing.	RCF-1a: Post construction notices and schedules at all fishable pipeline water crossings.	Bay and Delta Water Crossings	Field check for signage/Provide copies of notices/signs to agency, including date posted.	Proof of signage; Reports from telephone contacts with anglers	CSLC	During construction
RCF-3: Accidents during construction could contaminate fish habitat.	RCF-3a: Develop debris disposal procedures.	All water crossings	Review debris disposal procedures and materials inventory; review post-construction inventory before operation.	No materials disposed into waterways.	CSLC	Before, during and after construction
RCF-4: Accidents during operation could restrict fishing access and/or contaminate fish habitat and fishing gear.	RCF-4a: Provide spill notification at accident sites and nearby or affected marinas, launch ramps, and fishing access points.	Bay and Delta marinas, launch ramps, fishing access points, and spill sites	Project proponent to alert agency of spills immediately after spill is detected; Agency monitors for compliance with fuel and drill mud spill response plans.	Compliance with spill response plans.	CSLC	Before and during construction